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(19) **United States**(12) **Patent Application Publication****Lee et al.**(10) **Pub. No.: US 2014/0239388 A1**(43) **Pub. Date: Aug. 28, 2014**(54) **TERMINATION TRENCH FOR POWER MOSFET APPLICATIONS****Publication Classification**(71) Applicant: **Alpha and Omega Semiconductor Incorporated**, Sunnyvale, CA (US)(72) Inventors: **Yeeheng Lee**, San Jose, CA (US); **Madhur Bobde**, Sunnyvale, CA (US); **Daniel Calafut**, San Jose, CA (US); **Hamza Yilmaz**, Saratoga, CA (US); **Xiaobin Wang**, San Jose, CA (US); **Ji Pan**, San Jose, CA (US); **Hong Chang**, Saratoga, CA (US); **Jongoh Kim**, Portland, OR (US)(73) Assignee: **Alpha and Omega Semiconductor Incorporated**, Sunnyvale, CA (US)(21) Appl. No.: **13/776,523**(22) Filed: **Feb. 25, 2013**(51) **Int. Cl.****H01L 27/088** (2006.01)**H01L 21/82** (2006.01)(52) **U.S. Cl.**CPC **H01L 27/088** (2013.01); **H01L 21/82** (2013.01)USPC **257/334**; 438/270(57) **ABSTRACT**

Aspects of the present disclosure describe a termination structure for a power MOSFET device. A termination trench may be formed into a semiconductor material and may encircle an active area of the MOSFET. The termination trench may comprise a first and second portion of conductive material. The first and second portions of conductive material are electrically isolated from each other. It is emphasized that this abstract is provided to comply with rules requiring an abstract that will allow a searcher or other reader to quickly ascertain the subject matter of the technical disclosure. It is submitted with the understanding that it will not be used to interpret or limit the scope or meaning of the claims.

